STUDIES IN THE EUPATORIEAE (ASTERACEAE). XCVII.

A NEW GENUS, DASYCONDYLUS.

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Within the broad concept of Eupatorium the section Campuloclinium has been maintained for many mostly South American species with large heads and often conical receptacles. The concept of the section usually included many species in addition to those now placed in the resurrected genus Campuloclinium, and particularly notable among these were the group placed here in a new genus, Dasycondylus.

The species of Dasycondylus show the often large heads, the conical receptacles and the enlarged hairy stylar nodes that mark Campuloclinium and various relatives of Ayapana. Still, relationship of Dasycondylus seems to be elsewhere. The conical receptacle is marked by large scars and the carpopodia are very enlarged with large thin-walled cells, two features that seem to relate the genus to Barrosoa of the Gyptoid series. The differences from Barrosoa include the more highly conical receptacles, the enlarged densely hirsute stylar node, the smoother corolla lobes and the more setiferous achenes. In the present interpretation the stylar node is given less significance than some other characteristics. At present, it seems that Campuloclinium, Dasycondylus and the relatives of Ayapana may form three completely different series. The presence of a stylar node in a Gyptoid genus such as Dasycondylus is unfortunate for purposes of concise definition but no more so than in the case of the distinct stylar node in Praxeliopsis which is in the otherwise non-nodular Chromolaena series. Actually the stylar nodes of Dasycondylus and the related genus Diacranthera seem subtly different from those of the Ayapanoid series by the consistancy with which they are hirsute.

Certain problems at the species level have been noted in the study. It should be observed that by error the name Eupatorium sordescens has been widely applied to members of this group. Most material in herbaria and the illustration in Flora Brasilensis (1876) by that name are Dasycondylus resinosus, but photographs of the type indicate a totally different species which awaits examination before proper place-

ment. The species concepts are complicated further by the reversion to the species name resinosus for what has been known as Eupatorium lundianum and E. schlechtendalii. A final complication has been the variation in the complex which we interpret here to include three previously undescribed species.

Dasycondylus R.M.King & H.Robinson, genus novum Asteracearum (Eupatorieae). Plantae suffrutescentes erectae pauce ramosae. Folia opposita distincte petiolata, laminis ovatis vel oblongis base cuneatis vel cordatis. Inflorescentieae corymboso-paniculatae, ramis plerumque in glomerulis terminantibus; pedicelli breves. Involucri squamae ca. 15-25 parum inaequilongae 3-4-seriatae interiores lanceolatae exteriores saepe late oblongae vel obovatae; receptacula conica valde maculata. Flores ca. 20-60 in capitulo; corollae anguste infundibulares, lobis triangularibus non vel duplo longioribus quam latioribus laevibus extus glanduliferis interdum setiferis; filamenta antherarum in parte superiore non incrassata, cellulis oblongis vel longioribus, parietibus valde transverse annulate ornatis, appendicibus plerumque parum longioribus quam latioribus oblongis vel ovatis; styli inferne valde incrassati dense hirsuti, appendicibus linearibus superne vix latioribus laevibus vel leniter mamillatis; achaenia prismatica 5-costata superiore sparse setifera; carpopodia incrassata, cellulis plerumque magnis, parietibus non incrassatis; pappus setiformis uniseriatus, setis ca. 30-40 scabris superne sensim parum angustioribus, cellulis apicalibus anguste obtusis vel acutis.

Species typica: Eupatorium lobbii Klatt

Key to the species of Dasycondylus

1. Leaves with broadly truncate or cordate bases; achenes with long flexuous setae; corolla lobes with many slender hairs externally D. platylepis

1. Leaves with cuneate bases; achenes with short stiff setae or nearly glabrous; corolla lobes with few or no short stout hairs 2

2. Heads usually with 45-60 flowers 3

2. Heads with 20-40 flowers 4

3. Outer phyllaries about 3 times as long as wide, obtusely pointed, heads with ca. 60 flowers: leaves sparsely puberulous below D. debeauxii

3. Outer phyllaries scarcely twice as long as wide, broadly rounded apically; heads with ca. 45-50 flowers; leaves distinctly tomentose below D. lobbii

4. Corolla lobes 1½ to 2 times as long as wide, with a few short stout setae on the outer surface 5

4. Corolla lobes scarcely longer than wide, with only glands on the outer surface 6

5. Leaves nearly glabrous, with slightly crenulate margins, outer phyllaries obtusely pointed D. riedelii

5. Leaves densely tomentose below with distinctly toothed margins, outer phyllaries with usually broadly rounded tips D. regnellii

6. Outer phyllaries very broadly rounded apically, heads with 27-40 flowers; leaves ovate-lanceolate D. dusenii

6. Outer phyllaries acute, heads with 20-30 flowers; leaves usually oblong-ovate D. resinosus

The seven species of Dasycondylus are as follows:

Dasycondylus debeauxii (B.L.Robinson) R.M.King & H.Robinson, comb. nov. Eupatorium debeauxii B.L.Robinson, Contr. Gray Herb. n.s. 68: 13. 1923. Brazil.

Dasycondylus dusenii R.M.King & H.Robinson, sp. nov. Plantae pauce ramosae. Folia supra puberula, subtus puberula vel tomentosa, petiolis 6-10 mm longis, laminis ovatis 4.0-9.5 cm longis 1.5-4.0 cm latis subserrulatis vel integris ad apicem acutis base breviter cuneatis. Capitula 7-9 mm alta; involucri squamae ca. 25-30 exteriores oblongae obtusae vel truncatae 3-4 mm longae 1.5-2.0 mm latae dense hirsutae interiores lanceolatae ca.6 mm longae; flores ca. 27-40 in capitulo; corollae 5.5-6.0 mm longae, lobis vix longioribus quam latioribus extus solum

glanduliferis, appendicibus antherarum ovato-oblongis non longioribus quam latioribus; achaenia 2.0-2.2 mm longa superne pauce setifera, setis brevibus rectis; setae pappi ca. 35-40, cellulis apicalibus acutis vel subacutis. Grana pollinis 20-25μ diam.

Type: BRAZIL: Parana: Jacarehy ad marginum silvilas August 27, 1915, P. Dusen 17214 (Holotype US!). Additional specimens: BRAZIL: Parana: Jacarehy, August 21, 1914, P.Dusen 15526 (US!), Pirahy, August 30, 1908, P.Dusen 6555 (US!)

The species is distinct from D. resinosus in the broader blunter outer phyllaries. The number of flowers also tends to be greater and the species seems to be rather intermediate between D. resinosus and D. lobbii.

Dasycondylus lobbii(Klatt) R.M.King & H.Robinson, comb. nov. Eupatorium lobbii Klatt, Ann. Naturh. Hofmus. Wien 9: 355. 1894. Bolivia, Brazil. Peru.

Dasycondylus platylepis (Baker) R.M.King & H.Robinson, comb. nov. Eupatorium platylepis Baker, Mart. Fl. Bras. 6(2): 355. 1876. Brazil.

Dasycondylus regnellii R.M.King & H.Robinson, sp. nov. Plantae multae ramosae. Folia subtus dense tomentosa, petiolis 4-10 mm longis, laminis ovatis 2.5-6.5 cm longis 1.0-3.0 cm latis distincte serratis ad apicem breviter acuminatis base breviter cuneatis. Capitula ca. 8 mm alta; involucri squamae ca. 20 exteriores obovatae obtusae ca. 3 mm longae 1.0-1.5 mm latae dense hirsutae, interiores lanceolatae ca. 5 mm longae; flores ca. 25-30 in capitulo; corollae 4.5 mm longae, lobis ca. 1½ longioribus quam latioribus extus glanduliferis plerumque uni- vel bi-setiferis, appendicibus antherarum late ovatis ca. 1¼ longioribus quam latioribus; achaenia ca. 2.2 mm longa superne multo setifera, setis aliquantum rectis; setae pappi ca. 40, cellulis apicalibus acutis vel subacutis. Grana pollinis ca. 23μ diam.

Type: BRAZIL: Minas Gerais: Caldas, August 24, 1862, Regnell III 715 (Holotype US!)

The species is notable for the strongly serrate leaves with dense tomentum on the under surface. The outer phyllaries are generally blunt, a condition not

seen in D. resinosus. The corollas have narrower lobes with a few hairs on the outer surface, characters more like D. riedelii.

Dasycondylus resinosus (Spreng.) R.M.King & H.Robinson, comb. nov. Mikania resinosa Spreng., Neue Entdeck. 2: 134. 1820. Brazil.

Dasycondylus riedelii R.M.King & H.Robinson, sp. nov. Plantae pauce ramosae. Folia utrinque subglabra, laminis ovatis leniter crenulatis vel subintegris breviter anguste acuminatis base breviter cuneatis; folia inferiora magna, petiolis usque ad 5 cm longis; laminis ca. 19 cm longis 10 cm latis; folia superiora minora, petiolis ca. 1 cm longis, laminis 6-8 cm longis 2-3 cm latis. Capitula ca. 8 mm alta; involucri squamae ca. 20 exteriores oblongae breviter acutae 2.5-3.0 mm longae; flores ca. 25 in capitulo; corollae 5.5 mm longae, lobis duplo longioribus quam latioribus extus glanduliferis uni- vel bi-setiferis, appendicibus antherarum oblongis ca. 1½ longioribus quam latioribus; achaenia 1.8 mm longa parce setifera, setis brevibus rectis; setae pappi ca. 40, cellulis apicalibus acutis vel subacutis. Grana pollinis 20-23μ diam.

Type: BRAZIL: without precise locality, Riedel sn (HOLOTYPE GH!)

The new species is based on material included by B.L.Robinson in his concept of Eupatorium carnosifolium though the specimen lacks the flat receptacle, the larger number of flowers and the divided anther appendages of the latter. The specimen of the new species does show a much larger leaf which was apparently from the lower part of the plant. Such leaves are not mentioned in descriptions of related species. The corolla lobes are most like those of D. regnellii being even narrower in comparison to their length and having similar hairs. The leaves are very different from D. regnellii in having only small teeth and in being only sparsely pubescent. The outer phyllaries of D. riedelii are also different from D. regnellii by being more pointed.

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